

6,881,654.



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FROM: Winston Hsu, PATENT AGENT, REG. NO.: 41,526

SERIAL NO.: 10/065,568

ATTORNEY DOCKET NO.: NAUP0482USA

**SUBJECT: REQUEST FOR CERTIFICATE OF
CORRECTION**

TOTAL PAGES: 8 PAGES (INCLUDING COVER PAGE)

Winston Hsu 2005/5/2

NAUP0482USA0_AS_1

PTO/SB/07 (09-04)

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Application Number: 10/065,568

(1) Transmittal Form 1 PAGE

(2) Fee Transmittal Form 1 PAGE

(3) Request for Certificate of Correction 6 PAGES

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**TRANSMITTAL
FORM**

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Total Number of Pages in This Submission

| | |
|------------------------|--------------------|
| Application Number | 10/065,568 |
| Filing Date | 10/31/2002 |
| First Named Inventor | Kuo-Ming Chen |
| Art Unit | 2824 |
| Examiner Name | Michael Lebentritt |
| Attorney Docket Number | NAUP0482USA |

ENCLOSURES (Check all that apply)

| | | |
|--|---|---|
| <input checked="" type="checkbox"/> Fee Transmittal Form | <input type="checkbox"/> Drawing(s) | <input type="checkbox"/> After Allowance Communication to TC |
| <input type="checkbox"/> Fee Attached | <input type="checkbox"/> Licensing-related Papers | <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences |
| <input type="checkbox"/> Amendment/Reply | <input type="checkbox"/> Petition | <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) |
| <input type="checkbox"/> After Final | <input type="checkbox"/> Petition to Convert to a Provisional Application | <input type="checkbox"/> Proprietary Information |
| <input type="checkbox"/> Affidavits/declaration(s) | <input type="checkbox"/> Power of Attorney, Revocation | <input type="checkbox"/> Status Letter |
| <input type="checkbox"/> Extension of Time Request | <input type="checkbox"/> Change of Correspondence Address | <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): |
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| <input type="checkbox"/> Certified Copy of Priority Document(s) | <input type="checkbox"/> CD, Number of CD(s) _____ | <input type="checkbox"/> -a copy of the front page of the Patent |
| <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application | <input type="checkbox"/> Landscape Table on CD | |
| <input type="checkbox"/> <i>Reply to Missing Parts under 37 CFR 1.52 or 1.53</i> | | |
| Remarks | | |

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

| | | | |
|--------------|---|----------|--------|
| Firm Name | North America Intellectual Property Corporation | | |
| Signature | <i>Winston Hsu</i> | | |
| Printed name | Winston Hsu | | |
| Date | 05/02/2005 | Reg. No. | 41,526 |

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Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL For FY 2005

Applicant claims small entity status. See 37 CFR 1.27

| | |
|--------------------------------|-----------|
| TOTAL AMOUNT OF PAYMENT | (\$ 0.00) |
|--------------------------------|-----------|

Complete if Known

| | |
|----------------------|--------------------|
| Application Number | 10/065,568 |
| Filing Date | 10/31/2002 |
| First Named Inventor | Kuo-Ming Chen |
| Examiner Name | Michael Lebentritt |
| Art Unit | 2824 |
| Attorney Docket No. | NAUP0482USA |

METHOD OF PAYMENT (check all that apply)

Check Credit Card Money Order None Other (please identify): _____

Deposit Account Deposit Account Number: 50-3105 Deposit Account Name: North America Intellectual Property Corp.

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FEE CALCULATION**1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

| Application Type | FILING FEES | | SEARCH FEES | | EXAMINATION FEES | | |
|------------------|-------------|--------------|-------------|--------------|------------------|--------------|--|
| | Fee (\$) | Small Entity | Fee (\$) | Small Entity | Fee (\$) | Small Entity | |
| Utility | 300 | 150 | 500 | 250 | 200 | 100 | |
| Design | 200 | 100 | 100 | 50 | 130 | 65 | |
| Plant | 200 | 100 | 300 | 150 | 160 | 80 | |
| Reissue | 300 | 150 | 500 | 250 | 600 | 300 | |
| Provisional | 200 | 100 | 0 | 0 | 0 | 0 | |

2. EXCESS CLAIM FEES**Fee Description**

Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent

Fee (\$) **Fee (\$)**

50 25

Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent

200 100

Multiple dependent claims

360 180

| Total Claims | Extra Claims | Fee (\$) | Fee Paid (\$) | | Multiple Dependent Claims | Fee (\$) | Fee Paid (\$) |
|--|--------------|----------|---------------|--|---------------------------|----------|---------------|
| - 20 or HP = | x | = | | | | | |
| HP = highest number of total claims paid for, if greater than 20 | | | | | | | |

| Indep. Claims | Extra Claims | Fee (\$) | Fee Paid (\$) | | | |
|---|--------------|----------|---------------|--|--|--|
| - 3 or HP = | x | = | | | | |
| HP = highest number of independent claims paid for, if greater than 3 | | | | | | |

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

| Total Sheets | Extra Sheets | Number of each additional 50 or fraction thereof | Fee (\$) | Fee Paid (\$) |
|--------------|--------------|--|----------|---------------|
| - 100 = | / 50 = | (round up to a whole number) x | | |

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other:

| SUBMITTED BY | | Registration No. (Attorney/Agent) | Telephone |
|-------------------|--------------------|--------------------------------------|--------------|
| Signature | <i>Winston Hsu</i> | 41,526 | 302-729-1562 |
| Name (Print/Type) | Winston Hsu | Date | 05/02/2005 |

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PATENT**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Patent No.: 6,881,654 Issue Date: 04/19/2005
5 App. No.: 10/065,568 Filing Date: 10/31/2002
Inventors : Kuo-Ming Chen et al.
Examiner: Michael Lebentritt Art Unit: 2824
Docket No.: NAUP0482USA

10 Title: SOLDER BUMP STRUCTURE AND LASER REPAIR PROCESS FOR MEMORY DEVIC
To: Commissioner for Patents
P.O. BOX 1450
15 Alexandria, VA 22313-1450
Subject: Request for Certificate of Correction of Office Mistake

Dear Sir:

20 Upon reviewing the above-identified patent, patentee noted the assignee's name should be corrected. As the agent of record, I hereby request that a Certificate of Correction be issued under 37 CFR 1.322 to correct the assignee's name "United Electronics Corp." into "United Microelectronics Corp.". A copy of the
25 Notice of Recordation of Assignment Document and the front page of the Patent are enclosed herewith.

Respectfully submitted,



Date: May 2, 2005

Winston Hsu, Patent Agent No. 41,526

5 P.O. BOX 506, Merrifield, VA 22116, U.S.A.

Voice Mail: 302-729-1562

Facsimile: 806-498-6673

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10 Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)

Attachment

15 -A copy of Notice of Recordation of Assignment Document
- A copy of the front page of the Patent



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RECORDATION DATE: 10/31/2002

REEL/FRAME: 013213/0174

NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:
CHEN, KUO-MING

DOC DATE: 10/16/2002

ASSIGNOR:
LIU, HUNG-MIN

DOC DATE: 10/16/2002

ASSIGNEE:
UNITED MICROELECTRONICS CORP.
NO.3, LI-HSIN ROAD 2
SCIENCE-BASED INDUSTRIAL PARK
HSIN-CHU CITY, TAIWANSERIAL NUMBER: 10065568
PATENT NUMBER:FILING DATE:
ISSUE DATE:ALLYSON PURNELL, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS



(12) United States Patent
Chen et al.

(10) Patent No.: US 6,881,654 B2
(45) Date of Patent: Apr. 19, 2005

(54) SOLDER BUMP STRUCTURE AND LASER REPAIR PROCESS FOR MEMORY DEVICE

(75) Inventors: Kuo-Ming Chen, Hsin-Chu Hsien (TW); Hung-Min Liu, Hsin-Chu (TW)

(73) Assignee: United Electronics Corp., Hsin-Chu (TW)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 22 days.

(21) Appl. No.: 10/065,568

(22) Filed: Oct. 31, 2002

(65) Prior Publication Data

US 2004/0087129 A1 May 6, 2004

(51) Int. Cl.⁷ H01L 21/20; H01L 21/4763

(52) U.S. Cl. 438/497; 438/478; 438/612; 438/614

(58) Field of Search 438/497, 478, 438/753, 612-614

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* cited by examiner

Primary Examiner—Michael Lebennitt

(74) Attorney, Agent, or Firm—Winston Hsu

(57) ABSTRACT

A solder bump structure and laser repair process for memory device include forming a first dielectric layer on a bump pad of a semiconductor wafer. After that, the first dielectric layer is etched to form a contact hole and to expose portions of the bump pad. A second dielectric layer is then formed on a surface of the semiconductor wafer outside of the contact hole. An under bump metallurgy (UBM) process is performed to form a metal layer on a surface of the contact hole, and a solder bump is formed on the metal layer. Finally the laser repair process for memory device is completed.

9 Claims, 8 Drawing Sheets

